

**EIGHT NEW SPECIES OF
CHIASMODOLO FROM SOUTH AMERICA
(HEMIPTERA: CICADELLIDAE: IDIOCERINAE)¹**

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ABSTRACT: Eight new species are added to the genus *Chiasmodolon*, *C. infraspina*, *C. lozadai*, and *C. guttatus* from Peru; *C. guianae* from French Guiana; and *C. anchylus*, *C. nodus*, *C. eluphus* and *C. circulus* from Colombia.

KEY WORDS: *Chiasmodolon*, leafhoppers, Hemiptera, Cicadellidae, Idiocerinae

The genus *Chiasmodolon* Dietrich contains 33 species at the present time (Dietrich and McKamey 1990, Lozada 2001 and Freytag 2006). This paper adds eight more species to this genus.

As stated in Freytag (2006), the species of this genus look very much alike and the characters found in the male genitalia are the best to use to separate the species. The females have seemingly good characters using the seventh sternum, but at this time the association with the male can not be made. Also, the distribution of many of the species is questionable as many of the species are only known at the present time from a single locality.

Codons used for this paper are the following: IHVL = Instituto von Humboldt, Villa de Leyva, Colombia; MUSM = Musco Nacional de Historia Natural, Lima, Peru; MNHN = Museum National D'Histoire Naturelle, Paris, France; and UKYL = University of Kentucky Collection, Lexington, KY 40546.

***Chiasmodolon nodus* Freytag, NEW SPECIES**
(Figures 1-3)

Description: Length of male 6 mm., female unknown. Similar to *camarus*, but larger and with different male genitalia. Overall color yellow brown with a large faint brown spot on each side of the pronotum. Male genitalia: Pygofer (Figs. 1 and 2) triangular in lateral view, with narrow, curved, sharply pointed process at apex (setae not shown). Subgenital plate (Fig. 1) longer than pygofer, truncate in lateral view, with small, dorsally pointed spine at apex. Style and connective normal type. Aedeagus (Fig. 3) robust, with large basal process, apex nearly straight, pointed.

Type Data: Holotype male: Colombia: Vaupés, RN Mosiro-Itajura (Caparú), Igapo, 1°4'S 69° 31'W, 60 m., Malaise, 22-IX-7-X-2002, L. Benavides, M 3394 (IHVL).

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Remarks: This species is closely related to *camarus*, but has a different apex to the pygofer of the male, as well as a much different aedeagus. This species is named for the large process on the aedeagus.

***Chiasmodolon lozadai* Freytag, NEW SPECIES**

(Figures 4-6)

Description: Length of male 5.5 mm., female unknown. Similar to *cornutus*, but smaller and with different male genitalia. Overall color yellow brown with no markings. Male genitalia: Pygofer (Figs. 4 and 5) triangular, but wider dorsally in lateral view, process on dorsal margin not extending much beyond pygofer apex (setae not shown). Subgenital plate (Fig. 4) widest and curved dorsad at apex, with a sharp spine at apex on caudal side. Style and connective of normal type. Aedeagus (Fig. 6) long, bent at right angle half distance from base, in lateral view, with spine-like process in middle on caudal side of basal half of shaft.

Type Data: Holotype male: Peru: Madre de Dios, Tambopata Res. Zone, Tambopata Res. Cntr. On Rio Tasmopata, 13°08'305"S 69°36'502"W, 190 m., 3-7-X-2004, C. R. Bartlett (MUSM).

Remarks: This species is closely related to *cornutus*, but has a shorter process on the pygofer and a much different aedeagus. This species is named for Pedro W. Lozada, Curator of Hemiptera, Musco Nacional de Hostoria Natural, Lima, Peru for his work on species of this genus.

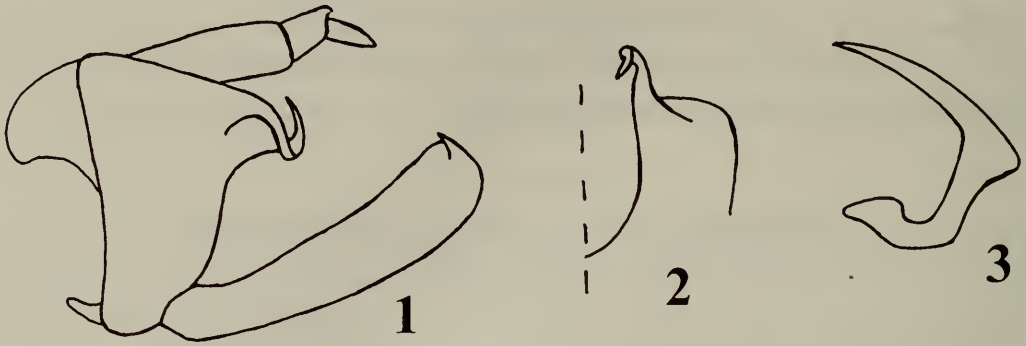
***Chiasmodolon infraspina* Freytag, NEW SPECIES**

(Figures 7-9)

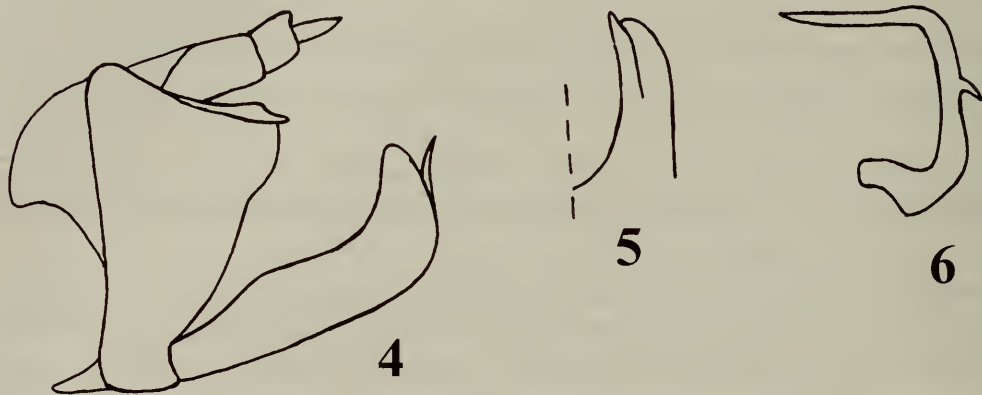
Description: Length of male 5.8 mm., female unknown. Similar to *torrus*, but with slightly different male genitalia. Overall color yellow brown with no markings. Male genitalia: Pygofer (Figs. 7 and 8) triangular, with a small spine on inner margin of dorsal margin (setae not shown). Subgenital plate (Fig. 7) long, nearly pointed, in lateral view, with a spine near apex on inner margin. Style and connective of the normal type. Aedeagus (Fig. 9) evenly curved, narrow, sharply pointed, in lateral view, with short, sharp spine on caudal margin near base.

Type Data: Holotype male: Peru: Madre de Dios, Tambopata Res., 30 km (air) SW Puerto Maldonado, 290 m., 12°51'S 69°17"W, Smithsonian Institution Canopy Fogging Project, T. L. Erwin et al, 30-IV-1984, 03/02/087 (MUSM)

Remarks: This species is close to *torrus*, but the process of the male pygofer is not hooked, and the aedeagus has a sharper spine on caudal margin. This species is named for the short spine of the male pygofer on the inner dorsal margin.

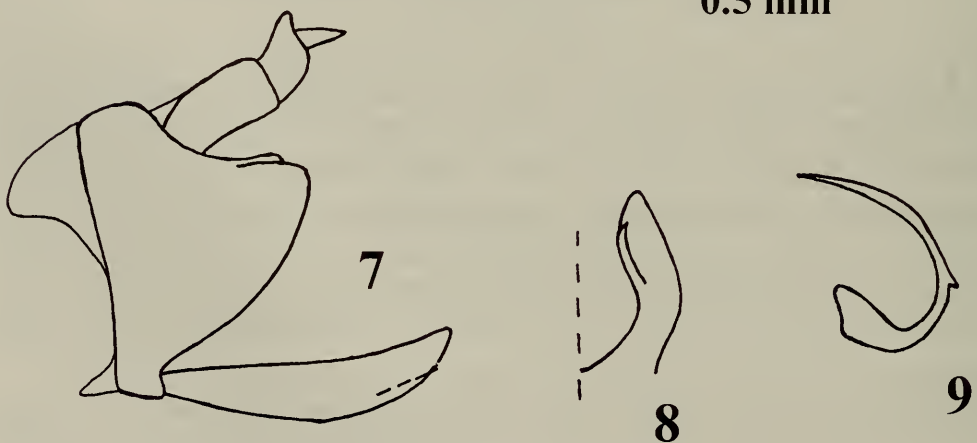


Chiasmmodolon nodus



Chiasmmodolon lozadai

—
0.5 mm



Chiasmmodolon infraspina

Figures 1-3. *Chiasmmodolon nodus* n. sp. Figures 4-6. *C. lozadai* n. sp. Figures 7-9. *C. infraspina* n. sp. Figs. 1, 4, and 7. Male genital capsule, lateral view (setae not shown). Figs. 2, 5, and 8. Left side of pygofer, dorsal view (dotted line indicates midline of body). Figs. 3, 6, and 9. Aedeagus, lateral view. All drawn to the same scale.

***Chiasmodolon guttatus* Freytag, NEW SPECIES**
(Figures 10-12)

Description: Length of male 5.9 mm., female unknown. Similar to *latidens*, but smaller and with different male genitalia. Overall color yellow brown with no markings. Male genitalia: Pygofer (Figs. 10 and 11) triangular, in lateral view with curved, pointed apex (setae not shown). Subgenital plate (Fig. 10) thick, curving dorsad at apex, pointed. Style and connective normal. Aedeagus (Fig. 12) with basal half of shaft straight to bump-like area on caudal margin, then curving dorsad to pointed apex.

Type Data: Holotype male: Peru: Madre de Dios, nr Puerto Maldonado, Posadas Amazonas Lodge, at Rio Tambopata, 186 m., 12°48'115"S 69°18'019"W, 7-10-X-2004, C. R. Bartlett (MUSM).

Remarks: This species is close to *latidens* in most aspects, except the aedeagus has a curved apical part of the shaft, which is nearly straight in *latidens*. This species is named for this bend in the apical part of the aedeagus.

***Chiasmodolon eluphus* Freytag, NEW SPECIES**
(Figures 13-15)

Description: Length of male 6.5 mm., female unknown. Similar to *acutus*, but smaller and with different male genitalia. Overall color yellow brown, with a dark brown dash at base of forewing. Male genitalia: Pygofer (Figs. 13 and 14) triangular, in lateral view, but with a long spine on dorsal margin near base, also long irregular spine at apex (setae not shown). Subgenital plate (Fig. 13) same width to rounded apex. Style and connective of normal type. Aedeagus (Fig. 15) bent from base with bump-like process on caudal margin of shaft one third from base, apical two-thirds of shaft bent in half, nearly same width to pointed apex.

Type Data: Holotype male: Colombia: Valle del Cauca, Farallenes de Cali, Cgto. La Meseta, 3°34'N 76°40'W, 196 m., Malaise, 24-XII-2003-24-I-2004, S. Sarria and M. Losso, M 4545 (IHVL). Paratype male: Same data as holotype, except 27-VIII-9-X-2003, M 4549 (UKYL).

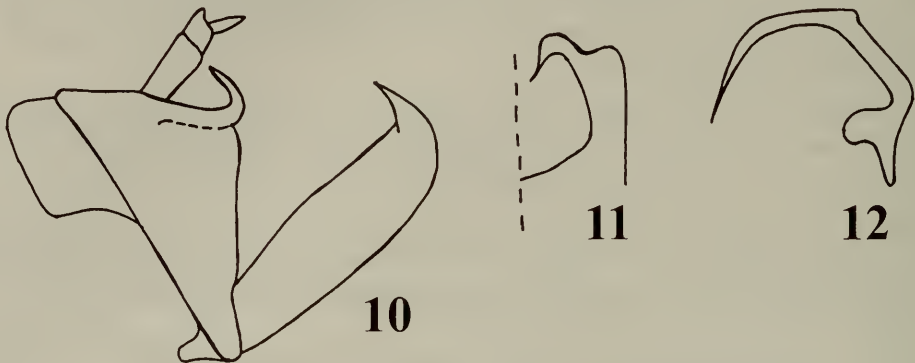
Remarks: This species is close to *acutus* in most aspects, however the aedeagus is quite different, and the pygofer processes are also distinctly different. This species is named for the unusual processes on the pygofer.

***Chiasmodolon guianae* Freytag, NEW SPECIES**
(Figures 16-18)

Description: Length of male 5 mm., female unknown. Similar to *lobatus*, but smaller and with different male genitalia. Vertex of head, pronotum and scutellum uniformly orange. Face yellow brown. Forewings brown with darker veins. Male genitalia: Pygofer (Figs. 16 and 17) triangular, in lateral view, with a thumb-like process on dorsal margin (setae not shown). Subgenital plate (Fig. 16) paddle-shaped, in lateral view, widest in apical half. Style and connective of normal type. Aedeagus (Fig. 18) short, bent abruptly at base, in lateral view, with a sharply pointed spine half length of shaft on caudal margin, then curving to pointed apex.

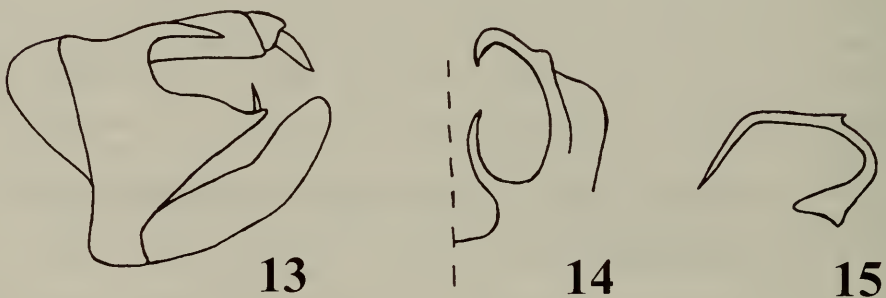
Type Data: Holotype male: French Guiana: 13 km W of Risquetout, 8-VI-2005, J. E. Eger and M. T. Messenger, 4°54'028"N 52°34'494"W, M. V. light (MNHN).

Remarks: This species is close to *lobatus*, but the process on the pygofer is not seen in lateral view, where it is in *lobatus*, and the process on the aedeagus is sharply pointed and the basal bend is nearly at right angle to the base. This species is named for the area from which it was collected.

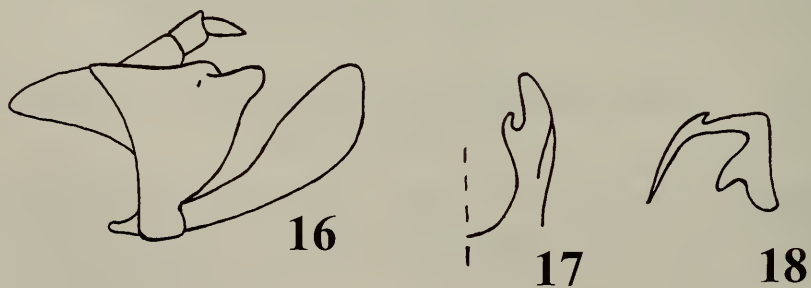


Chiasmmodolon guttatus

0.5 mm



Chiasmmodolon eluphus



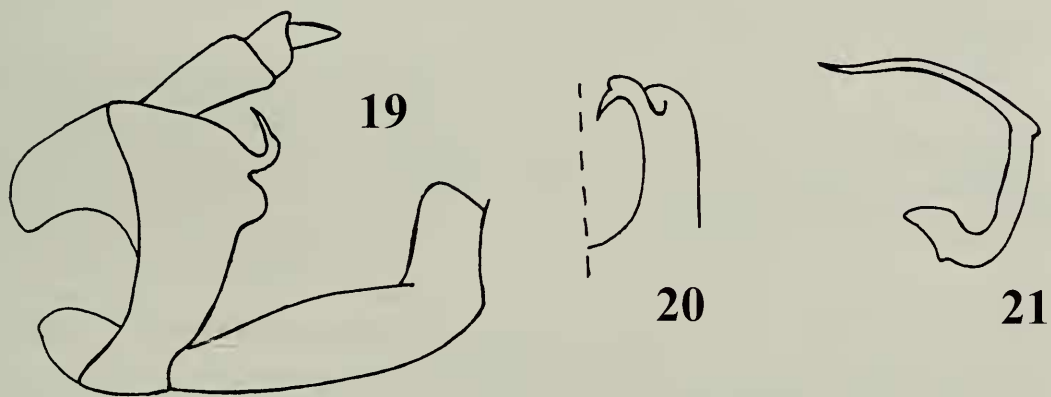
Chiasmmodolon guianae

Figures 10-12. *Chiasmmodolon guttatus* n. sp. Figures 13-15. *C. eluphus* n. sp. Figures 16-18. *C. guianae* n. sp. Figs. 10, 13, and 16. Male genital capsule, lateral view (setae not shown). Figs. 11, 14, and 17. Left side of pygofer, dorsal view (dotted line indicates midline of body). Figs. 12, 15, and 18. Aedeagus, lateral view. All drawn to the same scale.

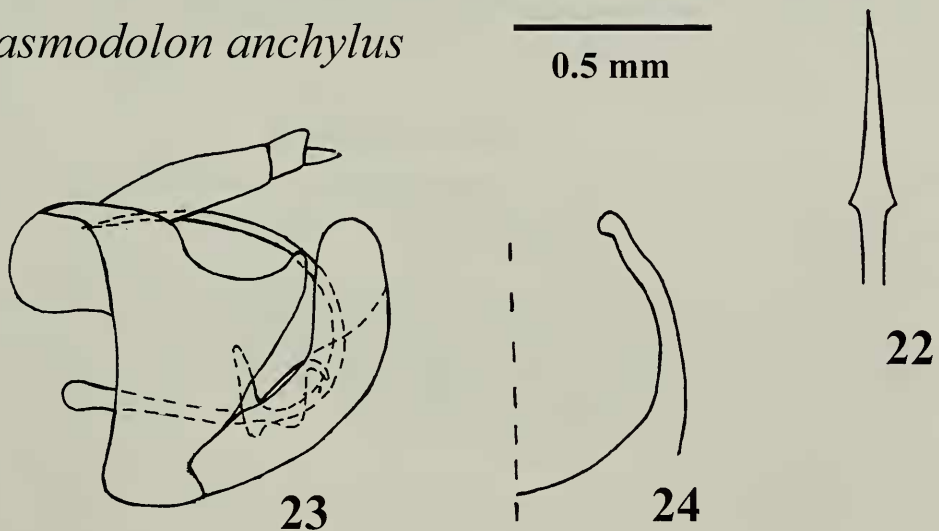
***Chiasmodolon anchylus* Freytag, NEW SPECIES**
(Figures 19-22)

Description: Length of male 6 mm., female unknown. Similar to *flavotinctus*, but with different male genitalia. Overall color yellow brown without markings. Male genitalia: Pygofer (Figs. 19 and 20) short, rounded at apex, with a recurved, sharply pointed process at apex of dorsal margin (setae not shown). Subgenital plate (Fig. 19) nearly same width to apical third which is bent dorsad, truncate, with a small spine on caudal apex. Style and connective of normal type. Aedeagus (Fig. 21) long, in lateral view, bent from base, basal third of shaft stout, same width to bump-like process on caudal margin, then apical two-thirds long, nearly straight, pointed at apex.

Type Data: Holotype male: Colombia, Amazonas, PNN Amacayacu, Mata-mata, 3°41'S 70°15'W, 150 m., 23-X-2000, Red, A. Parente, M 3552 (IHVL).



Chiasmodolon anchylus



Chiasmodolon circulus

Figures 19-22. *Chiasmodolon anchylus* n. sp. Figures 23-24. *C. circulus* n. sp. Figs. 19 and 23. Male genital capsule, lateral view (setae not shown). Figs. 20 and 24. Left side of pygofer, dorsal view (dotted line indicates midline of body). Fig. 21. Aedeagus, lateral view. Fig. 22. Apical part of aedeagus, dorsal view. All drawn to same scale.

Remarks: This species is close to *flavotinctus*, except it has a more distinct process on the male pygofer, the aedeagus is longer and straight at apex, and the subgenital plate is bent abruptly at apex and has a small spine at apex. It is named for the crooked subgenital plate.

***Chiasmodolon circulus* Freytag, NEW SPECIES**

(Figures 23-25)

Description: Length of male 6 mm., female unknown. Similar to *lautus*, but smaller and with different male genitalia. Male genitalia: Pygofer (Figs. 23 and 24) triangular, in lateral view, apex curving toward median, in dorsal view (setae not shown). Subgenital plate (Fig. 23) nearly same width to apex, in lateral view, curving dorsad at half length, rounded at apex. Style (Fig. 23), long, hooked at apex. Connective normal. Aedeagus (Fig. 23) very long, in lateral view, curving dorsad, nearly same width to pointed apex.

Type Data: Holotype male: Colombia: Cauca, PNN Gorgona, El Helechal, 2° 58'N 78°11'W, 30 m., Malaise, 28-IX-22-X-2001, H. Torres, M 2459 (IHVL).

Remarks: This species is near *lautus*, but the apex of the male pygofer is not pointed, and the aedeagus is longer and not curved as much at apex. It is named for the curved male aedeagus.

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LITERATURE CITED

- Dietrich, C. H. and S. H. McKamey.** 1990. Three new idiocerine leafhoppers (Homoptera: Cicadellidae) from Guyana with remarks on ant-mutualism and subsociality. *Proceedings of the Entomological Society of Washington* 92(2):214-223.
- Freytag, P. H.** 2006. Twenty-six new species of *Chiasmodolon* from South America (Hemiptera: Cicadellidae: Idiocerinae). *Journal of the Kansas Entomological Society* 79(1):55-77.
- Lozada, P. W.** 2001. Revisión del género *Chiasmodolon* Dietrich, 1990 (Homoptera: Cicadellidae: Idiocerinae). *Revista Peruana de Entomología* 42:1-8.